



September 15, 2022

Mr. Don Turner
Environmental Project Officer
Water Security Agency
Suite 300 – 2365 Albert Street
Regina, SK S4P 4K1

Dear Mr. Turner:

RE: Monthly Report: **August 2022**

In compliance with the City of Regina “Permit to Operate a Sewage Works” # 0050853-07-00 please find attached the monthly report for August 2022.

I trust this meets with your approval, should you have any questions please do not hesitate to contact me directly at (306) 519-9054 or Justin Allan at (306) 551-3180.

Yours truly,

A handwritten signature in blue ink, appearing to read "J. Zimmer", with a long horizontal flourish extending to the right.

Joe Zimmer, P. Eng.
Manager, Regina Operations
EPCOR Water Services

City of Regina - Wastewater Treatment Plant

August 2022															
Final Effluent Results										Permit# 00050853-07-00					
Date	Flow to Creek	Total Coliform	<i>E. coli</i>	Enterococci	Dissolved Oxygen (Field Test)	Temp. (Field Test)	Chloride (Field Test)	Total Phosphorus	pH @15±1°C	Total Suspended Solids	CBOD	Ammonia Nitrogen	Unionized Ammonia @15±1°C	Total Kjeldahl Nitrogen	Total Nitrogen
	(ML)	(MPN /100mL)			(mg/L)	(°C)	(mg/L)	(mg P/L)	(SU)	(mg/L)	(mg/L)	(mg N/L)	(mg N/L)	(mg N/L)	(mg N/L)
01	57.36	1,540	46		7.85	19.5	186	0.36	7.57	7.7	4.2	3.00	0.030	5.4	10.4
02	73.05	326	29	6	7.91	19.4	180	0.55	7.36	15.5	4.8	0.32	< 0.030	2.9	6.1
03	69.76	3,450	19		7.55	19.4	187	0.58	7.48	17.7	4.9	0.33	< 0.030	3.0	6.2
04	68.10	411	15		6.44	19.6	192	0.85	7.54	24.0	6.2	0.38	< 0.030	3.6	7.6
05	69.14	727	40		6.46	19.4		1.76		48.5		0.79		5.9	9.6
06	65.67				7.00	19.3		0.78		24.4		0.36		3.7	8.1
07	65.55				6.94	19.4	200	1.18	7.50	32.7	7.3	0.31	< 0.030	4.2	8.2
08	65.33	328	32		8.83	19.6	188	1.18	7.57	32.8	6.4	0.30	< 0.030	3.9	7.7
09	52.44	372	10	18	9.00	19.6	186	0.80	7.65	22.3	5.5	0.35	< 0.030	3.3	7.1
10	24.58	687	13		7.21	19.7	196	0.78	7.48	19.0	5.3	0.63	< 0.030	4.8	8.5
11	73.39	435	17		8.54	19.2	188	0.83	7.50	24.4	5.3	1.90	< 0.030	3.0	6.4
12	72.79	461	30		7.66	19.6		0.24		6.8		1.18		3.6	8.9
13	72.69				8.21	19.8		0.32		10.0		1.44		3.6	7.4
14	70.66				8.07	19.9	198	0.25	7.51	8.4	3.3	1.84	< 0.030	3.4	7.1
15	67.83	261	19	11	7.97	20.0	196	0.22	7.44	7.0	2.7	1.76	< 0.030	3.4	7.1
16	43.54	365	23		6.97	19.9	203	0.52	7.49	15.0	5.4	5.54	0.046	9.1	11
17	69.96	449	28		7.02	19.9	203	0.34	7.52	10.4	4.5	7.76	0.069	11	14
18	67.86	248	13		8.38	20.2	201	0.40	7.49	7.8	3.8	1.74	< 0.030	4.0	9.0
19	67.84	211	< 10		8.89	20.3		0.20		6.2		< 0.30		1.8	6.2
20	61.92				9.37	20.4		0.19		6.6		0.81		2.7	8.9
21	67.22				8.31	20.3	208	0.21	7.49	6.9	2.5	< 0.30	< 0.030	1.9	7.4
22	72.14	142	7	2	8.48	20.4	212	0.30	7.41	8.8	2.5	0.41	< 0.030	2.4	8.4
23	70.73	46	2		8.74	20.3	205	0.30	7.41	8.3	2.7	< 0.30	< 0.030	1.9	7.5
24	67.03	326	46		9.10	20.3	217	0.22	7.44	7.2	2.5	0.73	< 0.030	2.0	8.7
25	63.88	1,230	75		8.89	20.4	215	0.19	7.47	6.5	2.1	< 0.30	< 0.030	1.8	8.6
26	67.46	75	< 10		8.43	20.3		0.23		7.1		< 0.30		2.4	7.9
27	67.37				7.97	20.3		0.26		7.9		< 0.30		2.3	7.1
28	66.41				7.07	20.0	202	0.28	7.54	8.4	2.8	< 0.30	< 0.030	2.2	6.7
29	70.92	2,090	313		7.11	19.9	202	0.24	7.42	6.9	2.8	0.94	< 0.030	2.8	7.1
30	62.40	872	186	12	7.04	20.0	216	0.21	7.42	5.1	2.4	1.03	< 0.030	2.9	8.1
31	63.53	613	111		8.42	20.2	212	0.24	7.46	6.2	2.4	0.44	< 0.030	2.4	7.3
Sum	2018.55														
Avg	65.11				7.93	19.9	200	0.48	7.49	14	4	1	0.032	3.6	8
Min	24.58				6.44	19.2	180	0.19	7.36	5.1	2.1	< 0.30	< 0.030	1.8	6.1
Max	73.39		313		9.37	20.4	217	1.76	7.65	48.5	7.3	7.76	0.069	11.0	14.0
Permit Limits			≤1000					≤0.75		≤15	≤15	≤4	≤1.24		≤10

E-Coli Geometric Mean = 25 MPN/100mL, Limit = 200 MPN/100mL

Plant Notes:

- Aug 1 to 29 - Flow was equalized using the lagoons throughout the month of August to reduce loading on the plant following the July BTEX event.
- Aug 9 to 10 - Flow was diverted to the lagoon during a 19.5 hour power outage.
- Aug 16 - Flow was diverted to the lagoon during a 10 hour power outage.

WSA Notes:

- Aug 16 to 31 - TKN and total nitrogen tested at an external accredited laboratory.
- Aug 14, 21, and 28 - CBOD tested at an external accredited laboratory.
- Aug 19 and 26 - Total coliform and *E. coli* tested at an external accredited laboratory.
- Aug 7 - CBOD result qualified.
- Aug 9, 16, and 25 - Total coliform and *E.coli* results qualified.

Creek Monthly Report to Water Security Agency

Tuesday, August 9, 2022

Permit# 00050853-07-00

Test Description	Riske's Crossing	Final Effluent	Sidmar Crossing	Wascana above the Qu'Appelle	Qu'Appelle above the Wascana	Lumsden
Dissolved Oxygen (Field Test)	6.67	7.97	6.13	8.23	8.05	8.16
pH (Field Test for Creek Samples)	8.25	7.44	7.13	8.17	8.09	8.08
Temperature (Field Test)	19.5	20.0	19.8	20.2	20.3	21.8
Total Suspended Solids	29.6	7.0	8.4	32.4	113	98.7
Carbonaceous Biochemical Oxygen Demand	3.9	2.7	2.4	<2.0	3.2	2.7
Total Phosphorus	0.61	0.22	0.37	0.30	0.21	0.28
Total Kjeldahl Nitrogen	1.8	3.4	1.5	1.2	1.1	1.3
Ammonia Nitrogen	<0.30	1.76	<0.30	<0.30	<0.30	<0.30
Nitrate Nitrogen	<0.13	3.29	2.89	1.24	<0.13	<0.13
Total Nitrogen	1.9	7.1	4.4	2.4	1.2	1.4
Phenol Alkalinity	9	0	0	6	5	5
Total Alkalinity	177	147	159	182	160	168
Carbonate	11	0	0	7	6	5
Bicarbonate	195	179	194	206	183	194
Chloride (Field Test)	41.3	196	144	131	18.2	56.2
Total Coliform	9,210	261	24,200	27,200	17,300	16,200
<i>E. coli</i>	99	19	272	687	47	313
Enterococci	99	11	102	248	50	166
Total Hardness*	246	314	314	321	194	245
Calcium*	51	70	70	71	40	52
Magnesium*	29	34	34	35	23	28
Potassium*	10	16	14	14	6.6	9.5
Sodium*	61	151	128	124	62	84
Sulfate*	150	240	240	230	150	180
Total Dissolved Solids*		908				
Conductivity at 25°C*		1390				
Phenolics*		0.010				
Mercury*		0.000002				
Aluminum*		0.12				
Antimony*		0.0007				
Arsenic*		0.0010				
Barium*		0.026				
Beryllium*		<0.0001				
Boron*		0.31				
Cadmium*		0.00001				
Chromium*		0.0006				
Cobalt*		0.0003				
Copper*		0.016				
Iron*		0.068				
Lead*		0.0011				
Manganese*		0.090				
Molybdenum*		0.0085				
Nickel*		0.0026				
Selenium*		0.0022				
Silver*		<0.00005				
Strontium*		0.42				
Thallium*		<0.0002				
Uranium*		0.0006				
Vanadium*		0.0014				
Zinc*		0.035				

Notes:

* Tests conducted by an external accredited laboratory.

Results are in mg/L except total coliforms, *E. coli*, enterococci (MPN/100mL), temperature (°C), conductivity (µS/cm) and pH (SU).

Final effluent results are from sample date 15 Aug 2022.

Total coliform and *E. coli* results qualified for Riske's, Sidmar, Wascana above Qu'Appelle, Qu'Appelle above Wascana, and Lumsden.

Primary Influent BOD Results (mg/L)

Aug 2 - 192; Aug 4 - 216; Aug 7 - 242; Aug 11 - 213; Aug 16 - 220; Aug 18 - 236; Aug 23 - 210; Aug 25 - 212; Aug 30 - 222